

of the results reached, leaving details for Mr. Thaxter's paper on the subject, which will soon appear in print.

The spores of *Gym. clavipes* C. & P. growing on stems of *Juniperus Virginiana* were sown on young plants of *Amelanchier Canadensis* and were followed by a luxuriant growth of *Ræstelia aurantiaca* Peck. *Gym. clavipes* was detected for the first time on *Juniperus communis* at Weymouth, Mass., by Mr. J. E. Humphrey, and was afterwards found on the same host in another locality by Mr. Thaxter. Cultures were also made of the foliicolous *Gymnosporangium*, which causes the well known bird-nest distortion of *J. Virginiana*, which is stated in my paper on "Gymnosporangia of the United States" to be a form of *G. clavipes*. The shape of the spores and their pedicels, and the fact that they sometimes germinate at both ends as in *G. clavipes*, lead me to refer the bird-nest form to that species. This view is incorrect, and the bird-nest form is rather to be referred to *G. conicum* DC., and the cultures made by Mr. Thaxter developed the æcidia of *Ræstelia cornuta* Fr. on *Amelanchier*, thus agreeing with Oersted's experiments. The spores of *Gym. clavariceforme* DC. on *J. communis* sown on *Crataegus tomentosa* were followed by *Ræstelia lacerata* Fr., also agreeing with Oersted's experiments. The cultures of spores of other species of *Gymnosporangium* are still under way and have given some interesting results already, but a full statement will appear later in Mr. Thaxter's paper.—W. G. FARLOW.

**The Arillus in Asimina** was described by me and figured from Sprague's drawings in the *Genera Illustrata*. Some botanist, I think M. Baillon, has controverted the statement, taking the view that the so-called arillus was only a false membrane, a condensation of the pulp of the pericarp around the seeds. Fresh fruits of *A. grandiflora* and *A. pygmæa*, communicated by Mr. Curtiss from Florida, clearly show the distinct and rather firm membrane, investing the seed and firmly attached at the hilum. I have not been able to study its formation and growth, which is still needful.—A. GRAY.

**Gymnosporangium macropus on *Pirus coronaria*.**—The "cedar apples" were gathered from several small trees of *Juniperus Virginiana* on April 12th, and before any of the gelatinous masses or "horns" upon the excrescences had made their appearance. The "apples" were placed in water on a plate in the laboratory until the spores had germinated and produced their sporidia in great abundance. On April 23d, sowings of the sporids were made upon the young leaves of the wild crab apple (*Pirus coronaria*).

The leaves and tips of branches sown were at once covered with sacs of cloth similar to those used in crossing and hybridizing plants. The same number of sacs were placed upon tips of twigs on which no *Gymnosporangium* spores had been sown.

By the method of forcing the growth of the cedar apples by keeping them moist and in a warm room, the danger of a previous inoculation of the leaves sown was avoided.

On May 12th spermagonia were found in abundance in process of formation upon the leaves in every instance where sowings had been made. On the other hand, not a sign of a fungus was observed on the unsown leaves under the sacs or on any other parts of the trees. The success of the inoculation was